

Puget Sound NEP: Supporting Pollution Identification and Correction (PIC) Programs throughout Puget Sound

What: Pollution Identification and Correction (PIC) programs identify and remove bacteria sources to ensure that surface waters are safe and sanitary, so people don't get sick when they swim in them or eat the shellfish.

Who: Through the National Estuary Program (NEP), EPA Region 10 has supported local partners in PIC programs in all 12 Puget Sound counties.

Why: Puget Sound PIC programs work to improve water quality and protect people's health from fecal pollution. Local governments have used PIC to protect and restore commercial, tribal, and recreational shellfish growing area closures and to reverse declining water quality trends.

Brief Description: PIC programs are an innovative tool for local partners to protect and restore shellfish beds and protect people from water-borne pathogens. PIC programs find, correct and prevent fecal (and other) pollution sources and use adaptive management to link the identification of pollution sources to monitoring and corrective action.

PIC programs provide "boots on the ground" throughout Puget Sound, and lead to real-time water quality improvements. PIC programs 1) collect water samples, 2) investigate fecal bacteria sources of water pollutions, and 3) take action to correct problems. PIC programs also offer technical and financial assistance to help homeowners and farmers to treat their sewage and address livestock waste.

PIC programs employ innovative methods. Here are some highlights from around the region:

- ❖ Kitsap County's PIC program conducts shoreline monitoring to investigate malfunctioning and failing septic systems that could directly impact the shoreline and/or a shellfish growing area. They conduct records reviews, field inspections, and sampling/dye testing to verify septic system issues, and help to correct confirmed septic system failures.
- ❖ In addition to water quality sampling to assess trends and identify bacteria sources, Skagit County's PIC program has brought in "Crush the Sewage Sniffing Dog" to detect human sewage.
- ❖ Snohomish County's PIC program works with partners to track down and reduce discharges from onsite septic systems and livestock. The program provides technical assistance and cost share to help landowners correct pollution problems.
- ❖ The Hood Canal Coordinating Council's PIC program is developing strategies to investigate and correct shoreline hotspots and conduct parcel surveys in high priority areas- fixing all septic system failures and correcting all other fecal pollution sources they find. They are building on social marketing strategies to carry out a regional outreach plan for the program.

Current Status: The Puget Sound NEP supports PIC programs in all 12 Puget Sound counties. PIC programs contributed to a net increase of 1,196 acres of shellfish bed openings in FY17 alone. PIC programs have helped to improve water quality throughout Puget Sound, despite increasing population growth and urbanization across the region. This is an important accomplishment, since Puget Sound is the only commercially viable shellfish growing area in the U.S. that is located in an urban watershed.

Outcomes: Due in part to EPA's support of Puget Sound PIC programs, FY17 saw openings of several large shellfish growing areas in Puget sound, including 810 acres in Drayton Harbor, 760 acres in Liberty

Bay, and 272 acres in Dungeness Bay. PIC has been a valuable resource in the elimination of fecal pollution sources and can also be used for nutrients, sediment, temperature and other pollutants.

Lessons Learned/Recommendations:

- Successful PIC programs need sustained coordination and clear roles across the various partner entities that work together to carry out the effort (e.g., local health jurisdictions, conservation districts, public utilities, the Washington Department of Ecology, the Washington State Department of Agriculture, tribes, EPA, etc.).
- Adaptive management is a key component of the PIC programs. PIC staff regularly review water quality outcomes and the relative success of various interventions to form a constant feedback loop.
- PIC programs take the work to the local level, where water quality staff and partners are intimately familiar with local conditions and constraints, as well as their neighbors. Locals know their watersheds best, and are in the best position to work collaboratively toward solutions.
- PIC programs are an ongoing effort, and require constant outreach as septic systems age, more residents move to an area, and new landowners start managing a property.

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For more information, see

<https://www.doh.wa.gov/CommunityandEnvironment/Shellfish/EPAGrants/PathogensGrant/PIC>.

Visual Diagram: See below.

Pollution Identification and Correction (PIC)

